

## Script for Rehabilitation Glove

### Kit Contents:

- Monitor
- Robotic Glove
- Charger
- Orange ball
- Glove for the healthy (unaffected) arm — used to drive movement for the impaired hand

### Setup Instructions:

1. **Power the monitor** by plugging it in. A **green battery indicator** at the top left of the screen will show that it's powered and ready.

2. **Connect the robotic glove** to the monitor using the cable provided.

3. **Connect the glove worn on the healthy arm** to the monitor as well.

**Tip:** Robotic gloves come in various sizes and are available for either the left or right hand depending on the patient.

4. Place the **affected hand inside the robotic glove**. Ensure the fingertips touch the lining of the glove. Secure the glove closed around the wrist.

5. On the **unaffected arm**, wear the fabric glove, aligning the fingertips with the stitching.

**Tip:** Proper alignment ensures accurate detection and mimicry of movements by the robotic glove. The patient may need assistance with this step.

6. Press the **power button** to start the device immediately.

### Control Panel Functions:

7. **Far right button (Time):**

Sets session length. Options: **10, 20, or 30 minutes**. The chosen time displays on the monitor.

8. **Inner right button (Heat):**

Controls glove temperature for sensory stimulation of the affected hand, enhancing skin receptor and nerve activation.

9. **Far left button (Speed):**

Adjusts the reaction time of the robotic glove to the healthy hand's movement.

Press repeatedly to cycle through speeds—higher numbers mean faster reaction. After the maximum speed, it loops back to the lowest.

10. **Inner left button (Intensity):**

Controls the grip intensity of the robotic glove during exercises.

Press repeatedly to cycle through intensity levels—higher numbers mean stronger grip sensation. After the maximum intensity, it loops back to the lowest.

### Using the Device:

11. Once settings are selected, place both hands on a flat surface with **palms facing upwards**.

12. Move the healthy hand by opening and closing it **slowly and steadily**, including rotating the wrist to turn the palm upwards and downwards. The robotic glove will mimic these movements.

13. For **full-hand impairment**:

Ensure all white rods on the robotic glove are aligned with the fingers' direction, indicating all fingers will be rehabilitated.

14. For **partial impairment or stiff fingers**:

Turn the rods corresponding to unaffected fingers **perpendicularly**. Keep aligned rods only for affected fingers.

#### **Additional Exercises:**

15. **Squeezing the orange ball:**

Squeeze and hold the ball, incorporating wrist movements.

16. **Writing simulation:**

Hold a pen with the unaffected hand while the robotic glove mimics holding and writing motions.

17. **Mirror therapy:**

Place the affected hand inside a mirror box facing the healthy hand. The patient watches the reflection of the healthy hand performing symmetrical movements. This visual illusion helps retrain the brain and restore motor control.

Mirror therapy can be combined with all above exercises.

#### **Tips & Recommendations:**

- This device suits stroke patients, those with hand stiffness, and patients with **Complex Regional Pain Syndrome (CRPS)**.
- It assists with sensory-motor activation, improves dexterity, and may reduce pain when combined with neuromodulation therapy.

#### **Ending the Session:**

18. When the session time ends, a voice will announce the completion. Press the **OFF button** to switch the device off.

19. Remove both gloves and place all components back in the box.